THE VETERINARY RECORD

A Weekly Journal for the Profession.

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NOMINATIONS FOR COUNCIL.

The nominations of Candidates for Council are slowly increasing, but there will probably be a few additional before the time expires. The following is a copy of the list suspended at Red Lion Square.

H. GRAY,	Kensington	W. J. MULVEY,	London
W. O. WILLIAMS,	Edinbro'	A. C. COPE,	"
J. MCKINNA,	Huddersfield	E. S. SHAVE,	"
A. E. METTAM,	Dublin	W. W. REEKIE,	"
J. H. CARTER,	Burnley	R. C. IRVING,	"
McI. MCCALL,	London	H. S. SLOCOCK,	Hounslow
F. W. WRAGG,	"	W. R. CLARKE,	Hampstead

HONOURS TO VETERINARY SURGEONS.

It is pleasant to find that in civil life as in military good services rendered are recognised. At the meeting of the Council of the Royal Agricultural Society held on Wednesday last, the Honorary Membership of the Society was conferred on the three following distinguished scientists:—Mr. Alex. C. Cope, president of the Royal College of Veterinary Surgeons; Dr. James Cossar Ewart, M.D., F.R.S., Regius Professor of Natural History in the University of Edinburgh; Professor J. F. M'Fadyean, B.Sc., M.B., principal of the Royal Veterinary College.

The services of Mr. Cope to agriculture have been rendered in his position of veterinary adviser to the Board of Agriculture. The importance of these services cannot be over rated, as upon his opinion depends largely the control of contagious disease among live stock. Of course the interests of agriculture in this connection come first, but there are other great interests involved viz., the shipping and railway companies who are affected by every regulation concerning the landing and movement of animals.

Professor Cossar Ewart is well known to the veterinary surgeon for the work he has done on Telegony and for years of exact research into the science of breeding. The Royal Agricultural Society have done well to recognise his great services.

Professor M'Fadyean has contributed more original pathological work on the live-stock of the country than any man living, and common gratitude alone would ensure his being in the list of honours given by the Society which presides over agricultural interests.

We only wish the Society would use its great position and immense powers, not only to reward those who have helped agriculture but to punish those who have retarded it. Then we should have to sympathise with the Board of Agriculture.

ACUTE GASTRIC IMPACTION AND TYMPANY WITH RUPTURE OF THE DIAPHRAGM.

By E. WALLIS HOARE, F.R.C.V.S., Cork.

On the morning of April 15th a very old cart horse was found by the stableman "blowing" to a great extent and the abdomen greatly distended. The ordinary colic draught with the addition of two ounces of terebene was administered, and I saw the animal shortly afterwards.

The following symptoms were presented: extreme tympanitis, marked hardening of the abdominal walls, profuse sweating, the sweat pouring off the body at intervals, marked respiratory distress, the nostrils being widely dilated, pulse almost imperceptible at jaw, haggard expression of countenance, surface of body and extremities cold, disinclination to move; the head and quarters were much bruised showing that violent struggling must have taken place during the night. The animal was constantly making attempts as if to get rid of something from the gullet, the neck being slightly arched, and the lower jaw depressed. He also appeared to breathe partly through the mouth. On standing at the right side of the animal a distinct creaking sound could be heard, and auscultation showed that this proceeded from the thoracic region and accompanied each respiratory movement. Auscultation of the left side showed an almost entire absence of respiratory sounds. The horse stood at intervals with his head over the half-door of the stall and continued the peculiar action of his jaws.

As the tympanitis was excessive I introduced the trocar and canula and a large amount of gas escaped. This seemed to give some relief; the horse remained quiet until about 7.30 p.m. when he was found dead, having forced out the stable door while in the act of dying.

Autopsy.—April 16th. Stomach of an enormous size, distended both by gas and solid ingesta, the organ extended far beyond its normal limits, its walls were stretched to their greatest extent, the mesentery over the viscus was ruptured. On examining further it was found that the stomach had forced the diaphragmatic flexure of the colon against the tendinous portion of the diaphragm, in which was a large rent; the edges of the latter were stained with extravasated blood.

Remarks.—The interesting features in this case are the extreme distension of the stomach, the enormous quantity of ingesta, and the rupture of the diaphragm. It is a matter for surprise that the stomach itself was not ruptured, and also how such a large amount of ingesta could have accumulated in the

organ. It is difficult to state at what period the rupture of the diaphragm occurred, but that it was ante-mortem I think the condition of the edges of the rent would go to prove. As regards diagnosis, I do not think that the most brilliant exponent of the art would have been correct—that is if his opinion was tested by an autopsy. The symptoms presented were common to rupture of any important organ in the abdominal cavity.

During a long experience of post-mortem examinations I have never encountered a stomach so distended with both gas and ingesta, and occupying so large a space in the abdominal cavity. I regret very much that I did not see the case in the earlier stages, in order to observe the symptoms presented.

HAIRLESS HEIFER.

By W. W. Lang, M.R.C.V.S., Caistor.

Subject.— Two-year-old Lincoln red shorthorn heifer.

This animal's hair first began to fall out about a year ago, bare patches showing themselves on the neck, shoulders, quarters, back and sides successively. The only parts now covered with hair are back of horns, withers, and about twelve inches at the end of the tail, whilst there are a few hairs on the limbs below the knees and hocks. Where the hair is absent the skin is of a beautiful cream colour, and quite smooth save for a few wrinkles here and

there. There has never been any sign of itchiness, and although the animal has never been isolated from the rest of the stock no others show the least sign of the same condition. Up till last Christmas the animal lived in the open air, but since then, owing to the cold weather, she has been confined in an ordinary well-aired cowhouse in company with several others. Her twin brother is now being used for breeding purposes, his coat is still perfectly natural.

In-breeding has been blamed by some as the cause of the heifer's condition, but the owner is quite satisfied that such is not the case this time at any rate. He is also of the opinion that at the present rate of the casting of the hair the animal will be completely bald in a few weeks time.

PILES.

Subject.—Full grown tabby Persian male cat.

History and Symptoms.—For some days the animal had been noticed to slide about like a dog with worms and to exhibit other signs of rectal irritation. For three days previous to being brought to hospital had endeavoured to defæcate but without success, and had failed in appetite. Upon examination the animal appeared dull and the abdomen was distended, digital examination of the rectum, performed under chloroform, revealed fæcal impaction and a hæmorrhoidal condition.

Treatment.—Rectal injection of glycerine ʒi.; five minutes later attempted defæcation, attempts repeated till successful at 20 minutes; fæces greater in quantity and somewhat harder than normal with hæmorrhage. Prescribed Pil. sapo. dur. gr.v, b.i.d. and ointment to rectum Ext. hamamel. ɱxx, lanolin ʒii, b.i.d.

3rd day, seen, all functions normal less irritation; discontinued pills.

8th day, not seen but reported to be well.

Six months later reported to remain all right.

The Doctor Sahib.

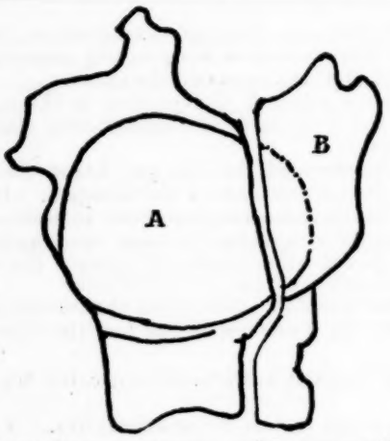
ABSTRACTS FROM FOREIGN JOURNALS.

Comminuted Fracture of the Humerus with Scapulo Humeral Luxation.— By H. Martin, Veterinary Surgeon, 27th Regiment French Artillery.

On March 3rd, 1900, the patient was jumped over a small obstacle about 18 inches high. On landing the near fore foot slipped on a stone. The horse stopped dead short with the hind limbs in the brambles of which the obstacle was made. The animal remained standing with the near fore limb flexed only resting the toe on the ground. The region about the shoulder was considerably swollen, with crepitation and pain over the joint when manipulated. The limb was swinging, and fracture of the humerus being diagnosed the animal was at once destroyed. On removing the skin an abundant exudation of blood into the subcutaneous tissue was noticed, also that the muscles of the arm and shoulder were considerably lacerated.

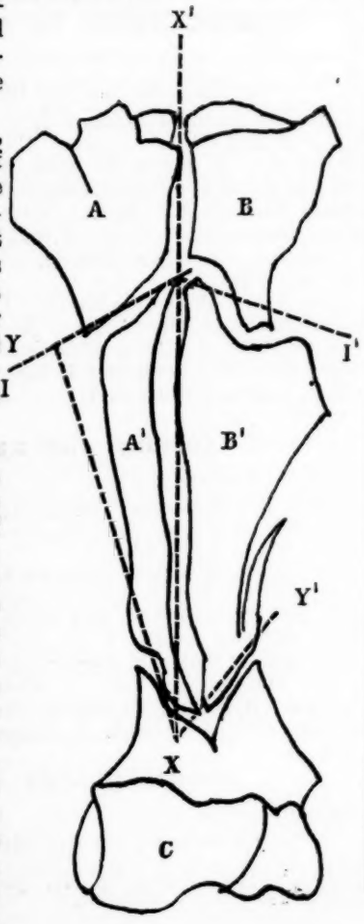
The humerus was altogether broken into seven fragments. The head of the bone was separate from the shaft and was split into two pieces by a vertical fracture which ran through the articular surface. (Fig. I.) The lower articular end of the bone was intact and not separated from the body which was split longitudinally with three fissures which almost corresponded with the groove of the screw (XX^{1}, XY, and XY^{1}, Fig. II.) The three fissures start from the same point (X, Fig. II) about an inch above the coronoid cavity and separate two splinters A^{1} B^{1}) which are completely detached and which constitute the anterior half of the body of the bone. These two splinters correspond to the two portions of the head. (Fig. I.)

If the fragments are fitted together and the bone looked on as being entire it will be seen that there are in reality two fractures, first an oblique one from above downwards and from before backwards, divid-



ing the bone into an upper and lower portion; and second that the upper portion is divided first into two portions AA^1 and BB^1 by a vertical fracture, and that again each portion is subdivided, A and A^1 and B and B^1 horizontally.

The mechanism of this fracture is accounted for by the sudden arrest of the horse after landing over the jump. The force involved by a horse weighing 450 kilograms (900 lbs.) galloping at the rate of 7 to 8 metres (about 23 ft. to 26 ft.) per second is enormous, and theoretically may be expressed by the following formula—$F = \frac{M V^2}{2} = 14{,}000$ kilograms. It can readily be understood how such a force, even if divided by two, which it would be, as there are two fore limbs, if suddenly arrested would be sufficient to fracture a long bone like the humerus.



With Dr. Gyser, Surgeon Major of my regiment I have made certain experiments and found that when the humerus was struck by a farrier's hammer that it fractured easily without anything like this force being exercised.

In every case when jumping there is a moment when the horse checks himself when his fore feet come to the ground and he is about to bring the hind ones down, yet fracture is not a common occurrence, and in the case under discussion it is necessary to look for some other explanation. When jumping, at the moment the horse pauses after landing he bends on his fore limbs, and the velocity acquired being expended in carrying him forwards is not exercised on the humerus; but supposing the movement of flexion was not carried out, the fore limbs would form rigid columns on which the entire force would act direct, and fracture would probably take place.

The above condition would take place in the event of a dislocation, and I am inclined to attribute the fracture to an accident of this nature. The horse having cleared the fence landed on a stone and the left foot slipped with an exaggerated extension of the limb resulting in a scapulo-humeral disclocation. If this took place the flexion of the anterior limb which normally takes place in the third stage of jumping could not take place, and the entire weight of the body would come on the near fore. The humerus would receive the whole force and the result would be a fracture. This view is confirmed if the fragments are replaced.

The bone, as I have shown, has been divided into two by an oblique fracture from above downwards and from before backwards, and this can be explained by the shock exercised from above downwards. The anatomical conformation of the bone is such that, under like conditions, the fissure of the fracture always follows the thread of the screw.

I fixed the humerus of a horse and having struck the head with a hammer exactly the same sort of fracture was obtained, except that the portions were whole whereas in the case mentioned they were again subdivided vertically, and it would seem that these secondary fissures were due to luxation of the scapula. In point of fact, the head of the humerus was disengaged from the glenoid cavity, the border of it resting on the centre of the articular surface, at an angle, between the bicipital ridges and external tuberosity, and from its position caused the fracture of the head.

I think that the mechanism mentioned will account for this fracture, which is interesting from its rarity.—(From *Recueil de Médécine Vétérinaire*, April 15th, 1901.)

JOSHUA A. NUNN, Vet.-Lt.-Col.

CONTAMINATION OF MILK.

Dr. L. Buonsanti, in an article in *La Clinica Veterinaria* reviewing the sanitary measures adopted by several European States in regard to the sale of milk, remarks upon the futility of scheduling poisons like arsenic, lead, strychnine, and belladonna, while at the same time ignoring the presence of plants such as colchicum, euphorbiaceæ, ranunculacæ etc. which so often infest pastures and affect the milk. He also points out the folly of ignoring the fact that though the health and sanitary surroundings of the cow may be perfect, the health and hands of the milker only too frequently escape observation and are the chief means of a serious pollution, wrongly attributed to the animal. He pertinently remarks that if, as is now so generally acknowledged, it is the duty of a local governing body to ensure a pure water supply from a pure source, how much more is it necessary that the origin and points of contact of a milk supply should be safeguarded.

Electrical Accident.

The Recueil de Méd. Vét. reports a case of death caused by a horse getting his foot fixed in a tramway cable box and making a connection with a continuous current of 500 volts and 100 ampéres; death occurred in five minutes. Post-mortem showed scarring on the right leg and side, dark coloured fluid blood, congestion and engorgement of the abdominal vessels, reddening of the intestinal mucus, hæmorrhagic spots on the mucus of the stomach, liver black and friable, hæmorrhagic spots on the cardiac muscles, reddening increasing in places to blackish discolouration on the endocardium. Lungs congested, nerve centres apparently healthy under the microscope.

Death was attributed to direct electrical action rather than to reflex or inhibitory action on the heart.

Veterinary Profession in Spain.

An article in the *Gaceta de Med. Zool.* for April 1st (suggestive date) deals at length with "Interference with the professional rights of veterinary surgeons," it may be summed up as follows.—

The profession desires a better social standing, and incidentally robes and official dress.

Individual success is obtained by hard work and common sense.

Mediocrity is injurious to the advance of the profession socially or financially.

Both the powers that be and individuals have left undone those things that they ought to have done and have done those things that they ought not to have done.

F. E. P.

Royal College of Veterinary Surgeons.

A special meetig of Council was held at the College, 10 Red Lion Square, W.C., on Friday, April 26th, 1901. Present: Mr. A. C. Cope, President, in the chair; Professors McCall, McI McCall, Pritchard, and W. O. Williams, Messrs. Barrett, Bower, J. A. W. Dollar, Locke, Mason, Mulvey, Simpson, Wragg, Thatcher (solicitor) and Hill (secretary).

The Seretary read the notice convening the meeting.

Absentees.

The Secretary announced the receipt of letters from Messrs. Abson, Carter, and Hartley regretting their inability to be present.

Minutes.

On the motion of Mr. Dollar, seconded by Professor W. O. Williams, the minutes were taken as read.

Alteration of Bye-Law.

Professor W. O. Williams moved the confirmation of the following alteration of bye-law passed at a special meeting held on the 12th inst.:—

"That bye-law 52 be altered by the addition of the following words: "Excepting only that any student who shall present a certificate granted by the Educational Institute of Scotland showing that he has passed an examination equivalent in all respects to their examination prevailing on the 30th June, 1896, and then known as the Preliminary Medical Examination, shall be entitled to Registration as a veterinary student."

Prof. McI McCall seconded the motion

Mr. Simpson asked if the passing of the resolution would in any way raise the educational standard as fixed in 1896.

Mr. Thatcher said he did not know the relative values of the two courses of examination. It was a matter for the examination Committee to decide whether or not the certificate was of the same value as the other. An expert in education could only answer the question by an examination of the two certificates.

Mr. Simpson said he understood the resolution to ask for precisely the same certificate for the Educational Institute of Scotland as the College decided to adopt in 1896.

Mr. Thatcher replied in the affirmative.

The resolution was put and carried.

The special meeting of Council then terminated.

BRITISH CONGRESS ON TUBERCULOSIS.

For the Prevention of Consumption.

To be held in the Queen's Hall, London, from Monday, July 22nd, to Friday, July 26th, 1901.

Patron:

His Most Gracious Majesty King Edward VII.

SECTION IV.

VETERINARY (TUBERCULOSIS IN ANIMALS).

President.—Sir George Brown, C.B.

Vice-Presidents.—Professors M'Fadyean, M.B., C.M., B. Sc., M.R.C.V.S.; Dewar, F.R.C.V.S.; McCall, F.R.C.V.S.; W. Owen Williams, F.R.C.V.S.; Mettam, B.Sc., M.R.C.V.S.; McEachran, F.R.C.V.S.; Lieut.-Colonel Nunn, C.I.E., D.S.O., F.R.C.V S., Barrister-at-Law: Messrs. A. C. Cope, M.R.C.V.S.; W. Hunting, F.R.C.V.S.; Matthew Hedley, F.R.C.V.S.; James Simpson, F.R.C.V.S.

Secretaries.—Professors Hobday, F.R.C.V.S., 27 Lower Phillimore Place, Kensington, W.; Bradley, M.B., B.Ch., M.R.C V.S., Royal (Dick's) Veterinary College, Edinburgh; Woodruff, M.R.C.V.S., Royal Veterinary College, Camden Town, N.W.

Tuesday, July 23rd.

Subject for discussion—

"The Diagnosis of Tuberculosis in Animals during Life."

This will be opened by Professor Dewar, F.R.C.V.S., Principal of the Royal (Dick's) Veterinary College, Edinburgh, and amongst those who are expected to take part in the discussion are:—

Professors M'Fadyean, Penberthy, Edgar, McEachran, and McLauchlan Young; Messrs. Abson, Bloye, Clarke, Dunstan, Fraser, Goodall, Harding, Hicks, Laithwood, Sessions, J. F. Simpson, and Villar.

Wednesday, July 24th.

Subject for discussion—

"Tuberculosis and the Milk-Supply."

This will be opened by Mr. Jno. A. W. Dollar,

M.R.C.V.S., and amongst those who are expected to take part in the discussion are :

Professors M'Fadyean, Stockman, and McLauchlan Young ; Dr. McCall; Messrs. Laithwood, Martin, P. Simpson, Sessions, and Villar.

Thursday, July 25th.

Subject for discussion—

"TUBERCULOSIS AND THE MEAT SUPPLY."

This will be opened by Mr. J. KING, M.R.C.V.S., Chief Veterinary Inspector to the Corporation of the City of London, and amongst those who are expected to take part in the discussion are :

Professors M'Fadyean, Penberthy, Williams, and Stockman ; Messrs. Hunting, Malcolm, Shaw, and Wolstenholme.

Friday, July 26th.

Subject for discussion—

"THE LEGISLATIVE AND OTHER MEASURES NECESSARY TO COMBAT TUBERCULOSIS AMONGST ANIMALS."

This will be opened by Prof. McEachran, F.R.C.V.S., D.V.S., Chief Veterinary Inspector to the Canadian Government, and amongst those who are expected to take part in the discussions are :

Professors M'Fadyean, Williams, and Edgar ; Colonel Nunn ; Messrs. Abson, Butters, Hunting, Shipley, Tutt, Villar, and Wolstenholme.

The official languages of the Congress will be English, French, and German, and authors of papers are requested to supply beforehand abstracts for translation.

Each speaker opening a discussion will be limited to thirty minutes, and each subsequent speaker to ten minutes.

An abstract of every paper and communication must be sent to the Secretary-General, 20 Hanover Square, at the latest on or before June 15th, 1901.

VETERINARY SOCIETIES.

IRISH CENTRAL VETERINARY ASSOCIATION.

The quarterly meeting was held in the Grand Central Hotel, Belfast, on Wednesday, 17th April. Mr. W. A. Byrne, president, occupied the chair. There were also present Messrs. P. J. Howard (vice-president), J. J. Ross, Belfast ; J. A. Thompson, Lurgan ; W. Watson, Dungannon ; E. Johnson, Belfast ; W. S. Lamont, Cookstown ; and J. J. Vahey, hon. sec.

Letters of apology for inability to attend were read from Messrs. E. C. Winter, Limerick ; D. Hamilton, Ballina ; W. Dawson, Cavan ; and Jas. McKenny, Dublin.

The minutes of the last meeting were read and approved.

On the motion of the President, seconded by Mr. W. S. Lamont, a vote of condolence with the relatives of the late Mr. C. J. Carrick, a member of the Association, was unanimously passed.

On the motion of Mr. Thompson, seconded by Mr. W. S. Lamont, it was resolved to direct the Secretary to write to each member of the Association to request him when subscribing to the Williams' Memorial Fund to send his subscription through the President, so that the total sum subscribed may be sent as a subscription from the Irish C.V.A.

Mr. W. HAMILTON being unable to attend the meeting, his paper entitled "A Discourse on Some Common Diseases of Animals," was read by the Secretary, and the discussion on it postponed until the next meeting.

SOME COMMON DISEASES OF ANIMALS.

By D. HAMILTON, M.R.C.V.S., Ballina.

Mr. President and Gentlemen,—In bringing this paper before your notice I must claim for its imperfections the exigencies of many duties, and a very wide and scattered country practice in preventing me from bringing forward some subject that might prove more beneficial and interesting for our consideration to-night.

On the spur of the moment I named a subject far too wide and comprehensive to treat of fully. Geographical situations and geological formations cause diseases to be more or less common in one locality that may be almost unheard of in another, and if I say more about some of those ailments that are common enough in my locality you will pardon me for only touching slightly on some of those diseases with which the majority might feel more interested. I fear that in taking up those subjects I cannot convey any information, solve problems or elucidate crucial points ; my real object being to create a discussion that may bring forth some results.

I will in the first place draw your attention to the diseases known as Redwater and Dry murrain (bovina). The two diseases I hope to show are very closely allied, but I shall deal with them as far as possible separately.

Redwater, also known as Bloody-water, Black-water Hæmaturia, Hæmo-albuminuria, etc., designations symptomatic or theoretically therapeutic of the disease. It affects cattle of all ages from four or five months old, and is characterised by the discharge of large quantities of bloody coloured urine, due to the breaking down of the red blood corpuscles and consequent escape of their colouring matter. The disease is known, I believe, all over the country, but more so in some localities than others. It may be more prevalent in poor lands than those of a better and richer quality, but it is not confined to the poor lands alone, as some of at least fair quality, and some even to be called good, are subject to it, and plenty of poor land has never been known to carry a single case. It appears strange, the veins of land that it appears to follow through a locality, sometimes a fence dividing one field from another separates the healthy from the unhealthy. As in the case of some other diseases habit seems to almost insure animals from attack. Those reared upon disposed lands rarely ever take redwater, and those grazed on the lands over winter are not nearly so liable to attack as those put on in spring or early summer. Sometimes months may elapse without a case, then suddenly there appears to be almost an epidemic, the only assignable cause being a sudden change in the weather, say from dry to wet or even showery weather.

It is easy to diagnose the disease when the symptoms have become established, but it takes a close observer to remark the animal dull or heavy and listless for a day or two before the first manifestation of the disease are apparent, namely, slight discolouration of urine. At first only tinged, it soon passes through the different shades of bloody, chocolate, brown, and finally black. At first it is increased in quantity and frothy, gradually decreasing in quantity, but increasing in density. The pulse is characteristic, being dichrotonous from the first, but increasing as the disease advances, and finally towards the latter stages the hard beating heart can be distinctly heard labouring a considerable distance from the animal, that finally dies from exhaustion. Sometimes redwater is ushered in with diarrhœa, which soon stops, and it generally ends in the not uncommon complication or accompaniment "dry murrain." It may not appear to the thorough scientific man of much conse-

quence how the disease comes to be produced, but I think that if this, as well as many others, were investigated something might be done to prevent or mitigate the disease.

Let us enquire into its pathological features :

1st. Is it due to a deficiency in albuminoids as taught by the late Professor Williams, and if so, why only appear under certain well known circumstances ?

2nd. Is it due to some imperfectly matured herb or grasses ?

I am inclined to the latter theory for a way out of the difficulty, and believe that it is some alteration in imperfectly matured albuminoids, that under certain circumstances undergo such alteration in their conversion into peptones or para-peptones during the process of digestion as to alter the condition and constituent elements of the ordinary assimilative nutriment and produce a substance having a toxic effect upon the whole system, and which causes a breakdown and disintegration of the blood, and has an extreme debilitating and lowering effect.

I shall not, however, be surprised to learn some day that an organism—probably vegetable– has been discovered to account for all the mischief.

The treatment of redwater is simple and varied. I shall not enter into all the different formulæ that I have heard of. Taken in the earliest stages a simple purgative of Epsom salts with oil of turpentine or sulphuric acid is often sufficient to check the disease, I presume by clearing away the altered material before it has gone far enough to materially affect the animal, and while sufficient strength remains to withstand and eliminate the degenerated products from the system. Cases have occurred to my knowledge that though fully marked in the course of an hour or so the water has become natural and the animal apparently well without any treatment whatever. It is difficult to account for such cases, and they are anything but frequent. The ordinary course is that the disease progresses until checked by medical treatment. My favourite treatment, and it has proved very efficacious in my hands, is oil of turpentine and liq. ferri. perchlor. Small doses of turpentine—I rarely give more than half an ounce, and one drahm of the ferri. perchlor. every four hours ; large doses I have found injurious, irritating the already irritated kidneys. Where there is weakness or much debility stimulants can be given with advantage, and other restorative measures may be used as the individual case demands ; further, the animal's strength should be maintained with nourishing drinks of flaxseed tea or oatmeal gruel.

I have mentioned that "redwater bovina" is sometimes accompanied by dry murrain. A disease that has been described as fardel bound, constipation, etc., but which I would like to designate as a disease characterised by the ordinary symptoms of constipation due to paralysis of the bowels and might not be misnamed "paralytic constipation." It is found upon the same lands and under the same circumstances as red water, and in the early stages the premonitory symptoms are so much alike that it is then impossible to say which it may be—or if both; there is the same dullness and listlessness in both diseases. However, the ordinary observer generally first remarks that the animal does not stretch itself on rising, and on being driven to the water it may purge slightly, or evacuate a small quantity of pultaceous fæces often containing hardened flakes or small particles, sometimes mixed with mucus, and more rarely tinged with blood. I may here remark that the water test is a very good and useful one for redwater also, and on all suspected lands herds should always make a point of seeing their charges at water once or twice daily. When the change in the fæces is remarked the listless or dull appearance can be easily observed, then defæcation ceases, rumination is suspended and there is absence of all peristaltic murmurs, the animal refuses to eat or drink ; the horns, at first hot, or alternately hot and cold, become cold ; a cold dew appears on the top of the hair over the body ; the moan or grunt increases in frequency ; the eyes become sunk in their sockets, depression increases, and the animal dies of exhaustion.

As with redwater, a dose of Epsom salts, carbonate of ammonia, and ginger is usually sufficient when taken in the first stage. When the symptoms are developed I recommend that the animal be driven into an empty house, when it will generally chew the cud and get as much of the contents of the rumen masticated as possible, I then give a pint or so of linseed oil, and in an hour or two afterwards administer a purgative such as I have mentioned. This is often all that is necessary, the oil having softened the contents of the stomach allows the purgative to act freely and at once. Should purgation not take place in from 10 to 12 hours, I consider it necessary to at once restore peristalsis, and for this purpose I believe in stimulative tonics, and usually prescribe strychnine, cinchona, carbonate of ammonia and ginger, to be administered in either gruel or porter two or three times a day until movement is restored. The disease being, in my opinion, a paralysed condition of the bowels, and from their weakened and semi-paralysed condition the food has not been perfectly digested for a few days before the disease became manifest, thus causing more or less constipation, naturally more marked in the manifold than elsewhere, it therefore behoves us to give plenty of liquids, nourishing drinks of very thin linseed tea, oatmeal white water, or even chilled water for the animal to drink. When they refuse to drink I often give ¼ or ½ lb. of common salt in water, this has the effect of creating a thirst and also assists in causing peristaltic movements and purgation.

I can speak with confidence of the efficacy of stimulative tonics, and I have often been successful in cases that looked almost hopeless. I prefer this treatment to eserine, it acts more slowly and gradually and is less liable to act upon the weakened heart. Most of the cases that I have had to deal with have had several doses of different purgatives before I saw them, and some poor brutes have been the victims of several drastic purgatives, and sundry stores of treacle and lard and all imaginable things, including boiled hens.

Almost everyone who has to deal with such cases has a line of treatment of their own, and I have no doubt all more or less successful. I may remark that when the animals have been eating old or dried grass, dry badly made hay, or ripe long grasses they can be judiciously and successfully treated with belladonna, or calomel and opium and demulcents.

It occurs to me, looking at those diseases from my point of view and from a little experience, that something might be done to mitigate the occurrence of those diseases by draining the damp and moory lands and top dressing with lime, marl, slag, limestone, or green sand, and by breaking up old arable lands and thus allow of oxidation and disintegration of the mineral constituents for the plant's food, this would improve and alter the nature of the grasses. The lands might also be enriched by manuring, and the best and most economical way is by feeding the animals with, say, linseed cake, and thereby getting an immediate return for part of the outlay by the improvement of the animal, and at the same time to some extent preventing the disease.

My reason for taking up so much space on this subject is my knowledge of the great loss that annually takes place, not alone from deaths but from the loss the animal sustains owing to its illness.

Most common diseases are in a very great measure due to dietetic and hygienic errors, such matters being usually left to the tender care of the groom. Many complaints are due to improper or irregular feeding. Improper when bad or inferior in quality, or when large

feeds of boiled food containing fibrous husks or other irritating or indigestible stuff be given. Irregular when given at unregular times and in unregular quantities. A horse is often worked and well fed for some time, then he is left idle and probably under fed. It does not appear to occur to many people that exercise or work is quite as essential to health as rest is to the hard worked, and the consequence is that sooner or later something happens.

Probably the most generally common disease is indigestion. If taken in time it can scarcely be looked upon as a very serious disease, but as the whole machinery depends upon digestion it must be considered a very important one. I do not intend to enter into the symptoms or treatment of the few diseases I intend to mention. In a paper of this kind it is impossible to go into details, I had no intention of doing so, and I fear that I have already transgressed very much indeed. I believe the general principle of treating indigestion is to stimulate and excite the various secretory organs and regulate the food, work, and general care. Undoubtedly indigestion is a frequent cause of colic, probably excited by a chill, a drink of cold water when heated, or some such cause.

Colic is a complaint that appeals to our sympathies, and requires prompt and active curative measures to relieve the sufferer. I may just mention here that I am a believer in a purgative, and Cannabis Indica, and also in puncturing the bowel in the flatulent form.

Diseases are more frequently caused by idleness than by work. We have examples of the former in lymphangitis and azoturia, the former may be due to other causes, but this must be admitted as one, and the latter may be taken as a good example of the effects of transformation of peptones into lower substances developed by an exciting cause.

It is surprising, taking into account the condition under which many animals are kept—the defective drainage and ventilation—that diseases are not more frequent. Somehow they appear to become accustomed to their unsanitary surroundings until some epidemic breaks out, when the mortality must be very great.

Coughs and colds are so common that I have only to mention them in passing. They are generally caused by chills, over-heating, and standing without shelter; horses often cough from no other cause than bad ventilation, the air being over-heated or foul from want of space, overcrowding, or bad or defective drainage. Our first duty in all such cases is to ascertain and remove the cause, then find out the location of the disease, and next try to guide it to recovery by the safest channel and the quickest method. A simple cold can only be kept as such by care, warmth, febrifuges, easily digested food and probably inhalations. I may also mention that in treating sore throat or irritation causing coughing I prefer electuaries given several times a day to draughts or medicines given on food. In slight cases I have seen some benefit derived from chlorate of potash tied in a muslin cloth and fastened to the centre of a bit and allowing the animal to gargle its throat slowly by swallowing the salt as it dissolves.

I regret that I have occupied so much time, and that I am compelled to pass over so many important and interesting subjects, but I console and excuse myself, knowing that there are many of them, anyone of which would form material for a paper.

In conclusion I must hope that the fruits of the discussion may compensate for the failings and shortcomings of this paper. I have not come to teach you but to learn. I leave the educating to my more scientific brethren, I follow but cannot lead. One thing I feel sure that my effort will give courage to other members to bring forward interesting subjects at our meetings to advance our science and raise our profession.

LINCOLNSHIRE VETERINARY MEDICAL ASSOCIATION.

The nineteenth annual meeting was held at the Angel Hotel, Grantham, on the 28th March, when the President (Mr. J. Smith, of Huntingdon) presided over a good attendance of the members, including Messrs. J. W. Gresswell, Peterborough; R. W. Clarke, Wragby; W. H. Brooks, Leadenham; W. B. G. Dickinson, Boston; F. L. Gooch, Stamford; H. Howse, Lincoln; T. A. Rudkin, Grantham; T. W. Turner, Sleaford; Prof. Pritchard, London; F. W. Wragg, London; G. A. Banham, Cambridge; E. C. Russell, secretary and treasurer, Grantham; and other gentlemen.

The SECRETARY read letters and telegrams from members who were unable to be present at the last moment.

The minutes of the last meeting at Lincoln were taken as read and confirmed.

A letter was read from a member complaining that the Santy's tooth forceps belonging to the Association were not in a suitable condition. They were produced by the Secretary and examined by several of the members who stated that they had used them and found them all right, and the matter was finally left in the hands of the Secretary.

FINANCE.

The TREASURER presented the annual balance sheet, which was of a very satisfactory character. It showed that the Association had a balance in the bank of £35 5s. 10d., and there was about £14 owing from the members.

It was ordered that the Association should send £2 2s. as a subscription to the Victoria Benevolent Society, as had been done other years.

ELECTION OF OFFICERS.

President.—On the proposition of Mr. Russell, seconded by Mr. Gresswell, Mr. Clarke, of Wragby, was elected as the President for the coming year. Mr. Gresswell paid a warm tribute to Mr. Clarke's ability, and said as there had been two presidents from the south of the district, it was nothing but right that they should have one from the north. Carried unanimously.

Vice-Presidents.—Messrs. Smith, Gresswell and Holmes were elected.

Secretary.—Mr. Smith proposed, and Mr. Russell seconded, that Mr. Turner, of Sleaford, be the secretary of the Association, Mr. Russell remarking that although he had had the greatest assistance from the president and vice-presidents it was impossible to be both secretary and treasurer. He was sure that they would find Mr. Turner a very able gentleman, and he had not the slightest doubt that all the members would work willingly with him for the good of the Association. Carried *nem. con.*

Mr. TURNER said that he would do his best if they could not find a better man, but he could not expect to equal the late Capt. Russell, or his son, the retiring secretary.

Treasurer.—Mr. Russell was again elected, and the past officers were thanked for their services.

PROF. WILLIAMS' MEMORIAL.

A letter was read asking the Association to subscribe. After some discussion it was decided that though it was likely that most of the members would subscribe privately, they as an association should do nothing until their next meeting, when the Memorial Committee would have some definite scheme to lay before them.

Mr. G. R. WELSBY, M.R.C.V.S., was proposed as a member by Mr. Gresswell, and seconded by Mr. Smith.

CYSTIC CALCULI.

Prof. PRITCHARD, in giving an address on this important subject, said he did not wish to bring it forward as something that was new, neither did he think that he should tell them anything that was new, but he desired to bring it before them so as to raise a good discussion and that something would thereby be brought out which would be both interesting and instructive. He purposed to make a few remarks—and they would be remarks only—on the causes, the symptoms, and the treatment best to be adopted.

With regard to the causes of this disease the professor had no doubt they were much more frequent in the human subject than they were in the lower animals. He thought so from the fact that the human subject was in the habit of dealing with the organs in a much more extraordinary manner than the lower animals, not only with respect to the foods he takes, but in the fluids he takes also, causing the organs to do much more than the lower animals do, and thereby is set up more readily the disease of these particular organs. Certain of the lower animals were constantly taking foods that were calculated to give a disposition in the kidneys and bladder which would make up a calculus, and if he does not take the material that contain the calculi he takes that which will bring about a sequence and a disposition on the slightest opportunity of producing one. In fact anything that will upset the functions of the kidneys is calculated to bring about the nucleus of a calculus. The Professor dealt at considerable length how this nucleus might be formed and how quickly it would grow, and dealt in a masterly manner how symptoms of this disease might be diagnosed, remarking that veterinary surgeons had in many instances failed to distinguish this disease from colic.

In speaking of its treatment Dr. Pritchard said that unless every bit of the calculus was got rid of the animal would soon be as bad as ever, for the least possible portion that was left, only formed a nucleus for a further formation. If the calculi were loose it was an easy matter to remove them by the hand or the forceps, but if they had become fixed to the membrane of the bladder much greater care must be exercised or a serious injury would be the result. After the calculus had been secured in the jaws of the spoon-bill forceps, they should be turned round three or four times and the operator would at once know whether the calculus was attached to the membrane, or whether he had hold of the membrane as well as the calculus. If the forceps turn without resistance by no means attempt to crush the stone however large, for with a little trouble and patience the piece entire might be removed. If the stone be crushed, he did not mind how carefully it was washed out, some of the *debris* would remain, and they would soon have as bad a condition as before. The professor concluded a very able speech by giving examples of cases that had come under his own notice, and showed large calculi that had been removed without crushing.

The PRESIDENT and other members in thanking Professor Pritchard were of opinion that the splendid address they had had delivered to them would rouse their interest in this disease. It was possible, although they considered their experience practically *nil* in this class of cases, there were instances where they were called to see a horse late at night, being told that it was suffering from colic. The usual remedies had been prescribed but the animal had died before morning. It was probable that if they had been called earlier and had had a better chance of examining the animal, they would have found that it was a case of calculus and not colic at all, and they felt sure the Doctor's remarks would create a much greater interest in this disease.

Mr. DICKINSON, of Boston, then introduced the Cambridge glanders case, and asked that Mr. Banham be allowed to make some remarks on it.

Mr. BANHAM having received the President's permission read a lengthy paper on the case, and asked for the signatures of the members present to a memorial asking that the discussion on the subject might be re-opened by the veterinary authorities. All the members present signed the memorial.

The members afterwards dined together at "The Angel" Hotel.

E. C. RUSSELL, *Sec.*

BORDER COUNTIES' VETERINARY MEDICAL ASSOCIATION.

A meeting was held at the Bush Hotel, Carlisle, on Friday the 18th ult. Mr. Croudace, Haltwhistle, presided at the commencement of the proceedings, and there were also present:—Mr. Steele, Wigton, President for the ensuing year; Professor W. O. Williams, Edinburgh; Messrs. Anderson, Hexham; Pears, and J. Armstrong, Penrith; Howe, Keswick; Hewson, Carlisle; Garnett, Windermere; Moore, Appleby; Caldwell, Brampton; and H. Thompson, Aspatria, hon. sec. and treasurer.

Mr. CROUDACE said his term of office as President now expired. He was obliged to them all for the assistance they had given him, especially to Mr. Thompson. He regretted to hear that Mr. Thompson proposed tendering his resignation. If he did so, he was afraid the Society would not continue long in existence. He hoped Mr. Thompson would reconsider the matter, for he was the figurehead of the Association. (App.)

Mr. STEELE then took the chair, and on the motion of Mr. Armstrong, seconded by Mr. Hewson, a hearty vote of thanks was accorded to the retiring President.

Mr. THOMPSON read a letter from Professor W. O. Williams conveying the sincere thanks of the relatives of the late Principal Williams for the Society's sympathetic letter of condolence.

Mr. Woods, of Wigan, wrote: "Whatever form the Memorial to the late Principal Williams may take, my opinion is we ought to have an oil painting of the Professor to hang in the Council Chamber of the R.C.V.S., London. He was a leader, and worthy of a place alongside the other illustrious men in the profession."

Mr. Ashley had written with respect to the Principal Williams Memorial Fund.

Mr. THOMPSON said he was one of the General Committee, and would be pleased to take subscriptions. A number of contributions were made.

Captain Hayes had written to Mr. Thompson offering to pay a visit to the Society summer meeting and to read a paper before them. Mr. Thompson said Captain Hayes was a great writer on different matters pertaining to veterinary science and would no doubt give them an interesting subject.

On the motion of Mr. Croudace, seconded by Mr. Hewson, it was decided that the summer meeting be held at Penrith as last year, on the first Friday in July.

Mr. MOORE, Appleby, was elected a member, on the motion of Mr. Hewson, seconded by Mr. Croudace.

On the question of Mr. Thompson's proposed retirement from the Secretaryship, Mr. Garnett moved that the proposal be not heard. (Hear, hear.)

Mr. CROUDACE said the last meeting was the one for the appointment of office-bearers, and Mr. Thompson was re-appointed at that meeting. He seconded the motion.

Mr. THOMPSON said he had acted as honorary treasurer for the Society since it was formed. What he regretted

was that the members generally seemed to take so little interest in the affairs of the Society. His position was purely honorary, and what annoyed him a great deal was the little trouble that individual members put themselves to when he sent them notice after notice for their subscriptions; this took up time and cost money. He mentioned one particular case of a member in arrear as being the whole cause of this. But seeing that Mr. Steele had accepted the post of President this year and Captain Hayes had promised a paper, he would retain the post for another year. (App.)

On the motion of Mr. Croudace, seconded by Mr. Hewson, it was decided that those members in arrear have their attention called to rule 12 of the Society, wherein it states "any member failing to pay his subscription within three months of the beginning of the year, or after receiving due notice, is liable to have his name struck off the list of members, at the discretion of the Society's quorum."

On the motion of Mr. Croudace, seconded by Mr. Hewson, it was decided that the President be asked to represent the Society at the forthcoming British Congress on Tuberculosis to be held in London from July 22nd to the 26th, and five guineas was voted towards his expenses.

It was also agreed, on the motion of Mr. Armstrong, seconded by Mr. Thompson, that a vote of condolence be forwarded to the widow and family of the late Mr. Thos. Campbell, F.R.C.V.S., of Kirkcudbright.

Professor WILLIAMS said it was his painful duty to announce the death of one of their honorary Fellows, Dr. Fleming, one of the few giants of the profession. No one could tell the amount of good he did for the elevation of his profession. Before he attained a position of any prominence in the Army, the Army V.S. was looked upon as of little or no account. But he had raised the status of the profession in the Army, and obtained the dignity of a C.B. in recognition of his services, and on leaving the Army he received an additional and special pension for merit. Dr. Fleming was born in Glasgow in 1833, and was 68 years of age last March. When twenty years of age he obtained his diploma at Clyde Street Veterinary College. In 1855 he joined the Army and went to the Crimea, where he served after Sevastopol. He then volunteered for the Chinese war, and was present at the taking of the Taku Forts, and received a medal and two clasps for work done there. At that day he was the only white man who had penetrated into the centre of China. He was made a member of the Royal Geographical Society. His publications included works that he translated from foreign authors, and some that he brought out himself. He was made a Fellow of almost every Veterinary Medical Society throughout the world. He did not think that there was a veterinary society in Britain, France, or America, which did not have his name on its roll. Many years ago lively discussions took place between the late Principal Williams and Dr. Fleming as to the causation of many diseases, laminitis, navicular disease, etc., and in thrashing out these questions they did a great deal for the profession. He was President of the Royal College of Veterinary Surgeons for five years, and he and Sir Frederick FitzWygram were the only two members of the profession who had ever held that honourable post on so many occasions. The members of the Border Counties' Society would all join with him in deploring the loss of one of their greatest giants, and to whom they all owed an extremely great debt of gratitude for his efforts in assisting them into the position they now maintained. He proposed that this Society send a vote of condolence to his widow. He regretted to say that he was only married last year. His widow was terribly stricken by the loss of a man who seemed to be in perfect health—so healthy that only on Friday last he was re-elected an examiner not only for the Membership of the profession, but for the Fellowship. He died the same night. That emphasised very forcibly indeed that man proposes, but God disposes. (Hear, hear.)

Mr. ARMSTRONG seconded the motion, which was agreed to.

The PRESIDENT mentioned a curious case of cow cleansing. In October last his attention was called to a cow going to cast her calf, which event, however, did not take place until the 27th of January when he was

asked to remove the cleansing from her. He then found the fœtus of a calf, sticking in the vagina, which he took away (specimen exhibited) a dried fœtus. He removed the cleansing and the cow never looked back. Strange to say the cleansing was rather above the average in size, quite healthy, and the cotyledons fully developed.

PRESIDENTIAL ADDRESS.

J. STEELE, M.R.C.V.S.

Gentlemen,—I thank you for the honour you have conferred upon me in electing me your President for the ensuing year, and at the same time I am sure that I may look forward to similar support and good feeling that has been extended to former occupants of this chair. I can assure you that it will be my utmost endeavour during this year of my office to make it as much a success as possible.

This chair has been filled since I came amongst you by men of different schools, by men who have not only received their early tuition in the different colleges but by at least one man who entered the profession a good number of years before the middle of the last century and who I am pleased to think is still amongst us.

I am too sensible of my inability to speak in adequate terms of the sound advice in professional matters that I have received from many of you, and I trust that during this year of my office that you shall not be backward in bringing to notice any subject of interest such as every practitioner meets in his daily work.

We cannot shut our eyes to the fact that in every department of professional life the preparation which was accepted years ago goes only a very short way in meeting the requirements of the present day. In former years the healing art was the popular object of sympathy; it is now preventive medicine which commends itself to the man of science. If you look back on these last 15 years you will find that you were busily engaged with many diseases that you now seldom see. The reason being that you not only found the material to combat these complaints but that you have educated your clients and attendants the ways and means to disarm the cause

of all such troubles. But if we have derived means of getting rid of many such diseases we will find other creep into our midst which formerly must have been in abeyance, and the evil which formerly existed is now replaced by another, which leaves us an abundant field to carry on further research.

It is not my intention to give you a long address, nor do I claim to bring before you anything new; but what I wish to make a few remarks upon is a disease which is very prevalent in this country and which, I am sure, could in a great measure be prevented, viz., enzootic abortion.

Enzootic abortion—that is to say abortion usually affecting a very large proportion of the pregnant animals in a given area at about the same time—is one of the worst diseases with which farmers and stockowners have to contend, and I feel inclined to say even worse than tuberculosis. At any rate the loss and disappointment associated with this disease are often extreme, and the difficulty of arresting its progress has led in many instances to the partial abandonment of breeding, and the consequent loss caused by it yearly must be tremendous. It is a disease upon which most will agree that curative treatment is of no avail, that is to say that when once an animal begins to show the usual signs of abortion nothing will prevent her from doing so. My chief object therefore in bringing this disease to your notice is to try if something more can be done to stay the ravages of this dire disease.

Abortion seems to have existed for a very long time, and we find evidence of its existence in some of the very ancient writings. A very early reference is found in the dialogue between Jacob and Laban in which the former is made to say "All the twenty years that I have been with thee neither the ewes nor the she goats have cast their young." Towards the latter part of the 18th century we find recorded instances of various species of domesticated animals being simultaneously the subjects of enzootic abortion. In this country about the beginning of the last century it was said that it was seldom seen in the lower animals, though it was frequent in the human race. About 1837 abortion spread through dairies, studs, and flocks. In 1886 abortion in cows had become so prevalent and serious that a question was asked in the House of Commons as to the advisability of bringing it under the Contagious Diseases (Animals) Act. During this period it produced great comment on the Continent, and in the seventies many important investigations were made in Denmark, and in recent years the Royal Agricultural Society of England formed a committee of enquiry into abortion in cattle with a view to preventing or checking it. Still I am sorry to say it is, like "The Poor," always with us, and is likely to continue unless some more stringent measures are taken for its prevention. It is no doubt a disease largely due to domestication and influenced by artificial conditions, as it is seldom, if ever seen amongst wild animals or animals on the Welsh hills, or the Highlands of Scotland.

It is not only in cows that enzootic abortion is serious, but also in mares. I believe abortion in mares is on the increase, and that some of our most valuable studs have been badly affected of late, and the attendant loss most severe. I have met personally more cases this season than almost in any three or four previous years together, and I have read that in other countries the disease has spread to an alarming extent, some of the largest studs losing a large percentage of their foals. It is also pretty common amongst ewes and there are few practitioners in sheep breeding districts who have not been consulted with regard to the occurrence of this disease in ewes.

Before we can make any valuable suggestions with regard to prevention we must first agree as to the cause. In considering the etiology of enzootic abortion I shall briefly refer to the physiological action exerted on the womb through certain nerve centres in the spinal cord. We must remember that in the spinal cord of the female there is a certain nerve centre which when excited brings about the contraction of the uterus and often expulsion of its contents. This centre may be excited through impressions made within the uterus, or on the uterus from without; also by a stimulus from the brain due to certain mental states. For example, when normal gestation is complete this action is called forth as the result of the fœtus becoming independent and acting like a foreign body serves as the necessary stimulus. Normal parturition therefore occurs not as the result of any mental excitement nor as a consequence of any impression from the outside, but from changes which are gradual and within the womb. But though change of relation of the fœtus and dam is allowed to be the natural cause of the expulsion of the uterine contents, it is somewhat strange that so many are inclined to think enzootic abortion is brought about by "sympathy" or "reflex action." By that is meant the effect on the uterus through the special senses of sight, smell, hearing etc. The possibility of the excitement of the uterus by mental emotion is not denied, but why the lower animals should have been credited with so sensitive a nature is difficult to understand, for by all the lower animals a variety of "smells" is experienced without exhibiting any sign of mental emotion. Again, if this should be the cause of abortion we should expect to find it occurring more frequently in the highly sensitive mare or ewe than in the cow, but this is not the case.

Admitting enzootic abortion is contagious and not due to any mental state, we now come to an important question, viz., may not a case of sporadic or accidental abortion lead to the enzootic form and so become a centre of contagion. This will be answered in the affirmative by many, believing that the germ which produces it is developed as a product of the diseased conditions of the placental membranes of the cow that has aborted. This I am not inclined to believe until we can prove that a harmless microbe or germ may become, under certain conditions, the cause of a specific or contagious disease. We might just as well say that the micrococcus found in an ordinary abscess could cause the abscess of strangles. I believe myself that enzootic abortion is due to a specific virus which gains access to the genital passages of pregnant animals, passes on to the uterus, and there sets up certain changes which in time bring about expulsion of the fœtus; and that it is found affecting cows of all breeds and under all conditions—indoors and out, and in well as in badly ventilated byres, and at all seasons of the year; and that it may occur at any period during gestation. I have noticed that like other specific diseases, it does die out if no fresh animals are brought into the herd, generally in about three years, and this may be accounted for by the acquired immunity of the cows themselves, or by attenuation of the powers of the specific virus. I can point out certain large dairies where they have never had this disease, an immunity due I believe to the fact that they never purchased or brought fresh cows into the herd but reared their own, nor allowed the bull to serve cows coming from neighbouring farms. This I consider an important fact when we come to deal with prevention.

I therefore think that before we can get rid of this disease it must be scheduled under the Contagious Diseases Animals Act, and certain restrictions be placed on owners of all affected herds. With regard to preventing the spread of the disease in a herd in which it has once appeared I think there is no better method than that advised by Prof. Nocard and several others, who advise thorough antiseptic precautions being taken, such as the daily sponging of the tail, perineum etc. with some antiseptic solution, also the thorough disinfection of byres and isolation of all animals that have aborted. I have advised this treatment in a great number of cases, and I have found it always a success. But so long as

farmers and others are allowed to take and expose for sale in a public auction cows that have aborted we may never expect to get rid of this disease.

I will conclude by hoping we will have a good discussion as to the best means of checking the ravages of this disease.

On the motion of Mr. Caldwell, seconded by Mr. Armstrong, a vote of thanks was passed to the President for his address.

DIAGNOSIS OF SHEEP SCAB.

By Frank W. Garnett, M.R.C.V.S.

When the Sheep Scab Order of 1898 came into force the duty was thrown upon veterinary inspectors of certifying the existence or non-existence of the disease. Although I have been accustomed more or less all my life to sheep scab it is only since that time that I have thoroughly gone into the symptoms of the disease, and I now make a practice of never certifying the existence of it until I have proved the presence of the acari, which, if they exist at all, is a comparatively easy matter.

The *modus operandi* I now follow is to select and examine the most ragged looking sheep in the flock, usually finding it extensively affected with a dry yellowish white scab from the top of the shoulders to towards the back of the elbows, or over the sacrum towards the loins, broken in places and bleeding through the constant rubbing, the scab is raised about a quarter to half an inch above the skin and the affected part is more or less denuded of wool. I find it practically useless to examine any of this scab microscopically, for the acari are rarely to be discovered and to attempt to do so is but waste of the examiner's time.

What I may call the sheet anchor sign of sheep scab, viz., scratching the scabbed sheep with the result that it leans towards you and nibbles with its mouth, I entirely disregard, for any sheep suffering from irritating skin affections, such as that caused by Melophagus ovinus (Fagor Kead) Ixoides or Trichodectes sphœrocephalus—to place them in the order of occurring frequency—will behave in this manner; while on the other hand sheep only slightly affected with scab shew none of the above old-fashioned symptoms, and so may be entirely overlooked.

The zone of active infection is always to be found at the periphery of the dry white scabs, and the scab must be followed down by dividing the wool until a moist sticky exudate like a gummy saliva is found upon the skin, in and upon which exudate and on the base of the wool will be seen with the naked eye numbers of small white bodies, here a portion of the wool must be cut off close to the skin with curved scissors and examined under the microscope, for this purpose I use a Zeis a. a. objective No. 1 eyepiece, when the acari will be found in all stages of development with a great preponderance of females, it is almost certain too that some of the small white specks (acari) will have adhered to the blades of the scissors.

There is no redness or irritation on this portion of the skin and scab is entirely absent, but within an inch or so of this glutinous moisture in a direction away from the dry scab a distinct irritation is visible though there are only few acari to be found upon it. I believe from the large number of acari to be found in the moist situations (in some cases I have scraped them off in hundreds), that the parasites feed, develope and multiply on the exudate thrown out from the irritated skin, caused by comparatively few acari. As the exudate gradually dries the scab forms which gives the distinguishing name to to the disease, and the parasites migrate farther and farther afield.

In sheep only slightly affected there may be only a small centre of disease, I have found them about the size of a shilling upon the top of the shoulders or sacrum denuded more or less of wool, the peculiar moisture on the skin, which is red and irritated round the margins of the affected part, no scab formation, and acari only present in small numbers. It is these cases which are likely to escape the observation of the most careful veterinary inspector, and it is for this reason that where scab has been found to exist in a flock of sheep it is essential that not only should the affected sheep be picked out and isolated, but that all the remainder which have been in contact with the diseased ones should be dipped, and redipped after the expiration of 14 days. This regulation should be compulsory, and not left to the idiosyncrasies of the controlling authorities. It must be remembered that the purpose of the Order is to rid the country of the disease, and to leave what in my opinion is the key to the whole situation in the hands of county councillors, however well intentioned they may be, who know nothing of the nature of the disease they are supposed to be controlling is an inexcusable weakness on the part of the central authority.

The veterinary inspector has not only to certify the existence of the disease, but upon him is thrown the responsibility of saying when the disease has ceased to exist. It is natural under these circumstances that he should keep in mind the not infrequent fact that although the affected sheep may have been dipped two or three times it is possible that the dipping has been weak, or so ineffectually performed that some of the acari or their ova still exist and are capable of forming fresh centres of infection; at any rate these centres must be suspected and searched for away from the positions which are usually the seat of the disease, before declaring an infected place free. To carry this out effectually the examination should not take place till 14 days or more have elapsed since the sheep were last dipped.

If the sheep have been dipped by the owner between the time he has reported the suspected outbreak of the disease to the police and the attendance of the veterinary inspector, as not infrequently occurred with me, it will be found most difficult indeed to isolate the acari, and I think it would be advisable if the Board of Agriculture were to issue instructions that no dipping should be done until the veterinary inspector had examined the sheep.

Psoroptes communis, var. ovis, as the parasite is named which causes the disease, in common with other acari of the same class, passes through several stages of development, and assumes different forms in each stage, which are sufficiently marked to distinguish each phase of its life.

In the first stage the recently hatched parasite is known as hexapod larva, the distinguishing features of which are that it has only three pairs of legs, the two anterior pairs terminate with ambulacral suckers while the third or posterior pair terminate with hairs. Fleming, in his translation of Neumann's Parasites, says: "the third pair of legs terminate with suckers," but this is not so. The smallness of the size of the psoropt in this stage when compared with the size it attains in other stages of its life is so marked that no mistake can be made in recognising it. The larva, after undergoing several moultings, arrives at the second stage of its development when it is known as a nympha, having now four pairs of legs, the two anterior pairs terminating as in the previous stage while the two posterior ones end with hairs.

After undergoing two or three moults the third, pubescent or adult stage is reached, this is the final stage for the male, which is now easily distinguishable from all other forms of the psoropt by having the three anterior pairs of legs terminating with suckers, the fourth pair being rudimentary and ending with hairs; it has also two triangular lobes on the posterior margin of the abdomen and two copulatory suckers. The pubescent stage

of the female has the same arrangement of legs as in the nympha stage, which it closely resembles, but it is distinguished from the latter by the vulva and two copulatory tubercles near the posterior margin of the venter surface on either side of the median line.

A single moulting suffices to bring the pubescent female to the next stage, when it is known as an ovigerous female, the first, second, and fourth pairs of legs of which terminate with ambulacral suckers, the third pair alone ending with hairs, this, together with the subthoracic vulva and the fact that the psoropt attains its greatest size in this stage, makes it the one which is most frequently seen.

Each ovigerous female may produce, according to Garlach, fifteen ova, and by his reckoning a single pair of acari may produce one million females and five hundred thousand males in ninety days.

The development of the ova may be easily followed by placing between two cover glasses a specimen of wool containing as many ova as possible and fixing the ends together with Canada balsam. The ova are small oval bodies, in the latter stages of which prior to hatching the doubled up larva may be distinctly seen through the transparent capsule.

The psoropt ova under favourable conditions will hatch in a few days, but what is of more importance if intelligible regulations are to be formulated for the suppression of the disease, is to determine the period which under the most unfavorable circumstances the ova may produce an active larva. Up to the present time this has not been determined, I have seen them hatch 16 days after taking them from the sheep, keeping the slide in a drawer in a room with a temperature varying between 45 and 50 degrees Fahrenheit.

Veterinary experience of sheep scab must be accumulating fast since the passing of the last Order, and I trust that the result of these notes and the discussion which I hope will follow may be the means of making known an easier, quicker, and more efficient means of diagnosing the disease than has been hitherto available.

In all places where I have used the word dip or dipping I include salving, pouring, smearing or other means of treating the disease.

Mr. GARNETT then formally moved that the Society send a resolution to the President of the Board of Agriculture and the Chief Veterinary Officer of the Department "That no sheep suspected of sheep scab should be dipped, poured, salved, or otherwise dealt with until after examination by the veterinary inspector."

Mr. ARMSTRONG seconded the motion, which was agreed to.

DISCUSSION.

Prof. WILLIAMS proposed a vote of thanks to Mr. Garnett for his paper, which he said was particularly valuable as pointing out the method of making a correct diagnosis of sheep scab. At College they frequently had specimens of wool sent for them to say whether there was sheep scab or not. In a number of cases the specimens showed no indications of scab, and he was pleased to say it was becoming the custom to use the microscope and the naked eye. He had frequently had the parasites on his fingers moving about. An interesting thing Mr. Garnett had pointed out were the various stages through which the parasites passed in developing. It was possible for one who did not know this to look at a plate in a book and say on seeing the parasite under the microscope "this has only six legs and not eight as shown in the book," or the parasite under the microscope might have four pairs of legs with suckers, or four with hairs, but the one in the book might show six with suckers and one pair with hairs, that man therefore could not go very well into court and swear that this was sheep scab. If one knew all the particulars that Mr. Garnett had pointed out, one could say whether it was or not a development of the parasite. He mentioned that some cows in Edinburgh were affected with mange, a cousin parasite. A number of these cows came from this part of the country. The disease appeared to be making progress in the country, and unless the authorities took steps to prevent it, no doubt it would be scheduled as sheep scab was, and would cause great loss to those who went in for calving cows.

Mr. ARMSTRONG said he had seen a few of these cases, and could never see anything worse about them than eczema from over-feeding.

Prof. WILLIAMS said he had microscopic specimens of the parasite, which was the undoubted cause of mange in cattle.

Mr. ANDERSON said he would like to hear an opinion about skin diseases in horses. At the present time he knew of eight cases at one place. He had tried different treatments, and the only thing he could get good was the old application—equal parts of oil of tar, turpentine, and train oil, painted on with a brush. The hair came totally off. He had had it three times himself. He had had the eruption down his chest and arms, but it died in three days. The scab looked like a small snail through the microscope.

Prof. WILLIAMS said he would examine them with pleasure if Mr. Anderson would send him some specimens.

Mr. ANDERSON said the disease was spreading in other parts of the district.

Prof. WILLIAMS said there was an outbreak in Lincolnshire or Cambridgeshire which affected the tails of horses, the end growing like a huge cabbage.

Mr. PEARS adverting to sheep scab, said magistrates ought to let farmers go scot free if they could not detect the scab without a lens. (Hear, hear.)

Mr. THOMPSON said he had never been able to see the acari of sheep scab with the naked eye. He would never give a certificate until he saw the acari under the microscope. They might go on a very cold day and get the scab and put portions under the microscope, and they would not be able to see the parasite. But if the sheep were put into a warm place, kept crowded together, and go next day they would find any quantity of the acari running about.

Prof. WILLIAMS exhibited a specimen of the parasite mounted by itself, to show that it can be seen with the naked eye.

Mr. GARNETT, replying on the discussion, said the last Order of the Board of Agriculture in 1898, imposed that no one could report a case until they had found the parasite. He had it on the highest authority that this duty was thrown upon veterinary surgeons for the simple reason that previous to the Order the police diagnosed sheep scab, and they were supposed to have diagnosed many hundred cases which were not sheep scab at all. It was essential that they should be able to detect it before going into a court of law. If he produced the acari or a photograph, it generally convinced the magistrates.

The Board of Agriculture is informed by the High Commissioner for Canada that the Canadian Government have sent an officer specially to this country to apply the tuberculin test to all cattle over six months old for breeding purposes, and to milch cows, intended for export from the United Kingdom to Canada. This arrangement supersedes that by which the test could hitherto be applied by veterinary surgeons in this country approved of by the High Commissioner. The officer appointed is Mr. J. G. Rutherford, Veterinary Quarantine Officer of the Canadian Department of Agriculture, to whom communications regarding the testing of cattle should be addressed. His headquarters for the present are the Canadian Government Offices, 52, St. Enoch Square, Glasgow.

EXTRACTS AND NOTES

BREEDING OF HORSES FOR ARMY PURPOSES.

Mr. J. M'LAUCHLAN YOUNG, of Aberdeen University, read a paper at a meeting of the Spey, Aven, and Fiddichside Farmer Club held at Aberlour on Saturday. Mr. R. C. Cameron, V.S., Elgin, presided.

Mr. Young said :—When your indefatigable secretary again asked me to introduce some subject to you at this meeting I could not but accede to his request, as last year, after promising, I failed to appear. However, the reason of my absence then has supplied the subject matter to-day, and although it may seem to many a strange topic for a farmers' club, I shall endeavour to show how it may affect the farmer and stock-breeder. I need not enter into details of the inception of the Scottish Yeomanry nor of our voyage, but suffice it to say we landed at Cape Town with 200 horses in moderately fit condition. After a few days' rest at Maitland Camp these animals were marched to Stellenbosch—a distance of about 30 miles—where we were to camp until completely horsed. A few miles out of the town there was, and I presume is still, a large remount establishment fully equipped with officers, British soldiers, and native servants. Although the officers endeavoured to buy as many horses as possible in the district the chief supply was imported animals, and unfortunately the majority of these were from the Argentine Republic. I say unfortunately advisedly, as the Argentine animals were altogether unsuited for the work they were called upon to undergo. It is said that General Trueman, the Inspector-General of Remounts, considered a lot of Argentines to be the most successful in South Africa, as they were broken and knew their business. If the General is correctly reported there must be a few good animals from the Argentine, but the lots I saw were raw, underbred, unbroken nags, which would have done little credit to our ordinary east-end herring cart. The lot served out to us formed a heterogeneous mob, with no uniformity as to age, sex, colour, size, temper, or working ability. The temper was perhaps the most variable, as it was seen in all forms of viciousness to sullen obstinancy. That may seem strong language, but it is more than corroborated by the experiences of some of our troopers. The first day after the animals had been served out to us one of the drivers of our gun section was thrown violently to the ground, and, alighting on his head, died the following day from concussion of the brain. A few days after a trooper while grooming his mount was severely kicked—two of his ribs being broken. About the same time one of my farrier sergeants while leading his horse was savagely kicked on the face, his nose being lifted upwards, and although attended by a well-known surgeon, is marked for life. By no means does that exhaust the list, but they will serve to show the character of the animals, and I might also mention that when examining the horses before finally taking them over I received more than one kick for no more serious fault than putting my hand on the back to feel for old sores. Illustrative of their half-broken condition was the fact that it was impossible to approach the majority from the off-side. There was another class, and one is inclined to say a worse class—viz., the narrow headed, ewe-necked, straight-shouldered specimen, which on being mounted refused to move, and when the spur was applied, from ignorance mistook it for an insect biting at his side, and straightway proceeded to remove it in the orthodox way by kicking at the spot. The application of a stick only made him shake his head, as if he were indicating to the rider that such treatment did not meet with his approval. Again they seemed to possess no pluck, no stamina, and collapsed when asked to exert themselves beyond but moderate work. Can we blame a trooper if he was at times rough, and perhaps a bit neglectful to such a mount? That the animals did not receive the care and consideration they ought to goes without saying, but I hold strongly had they been a different class of animal—such, indeed, as the trooper would have been proud of and almost made a friend of—the treatment and attention would have been better, and perhaps this in a small degree accounts for the very large number of remounts required during the campaign. Of course, it would be unfair to condemn Argentines *in toto*, because out of the lot we received there were a few which did well, although while they lasted they were always characterised by an extraordinary lack of courage and an inclination to lie down on the march.

Having been completely mounted at Stellenbosch, my regiment was sent up country, and I do not intend referring again to it beyond the fact that when we reached Warrenton we were brigaded with other mounted troops, so that from then onwards I had many opportunities of studying the various animals used for remount purposes. Were I asked to tabulate the various horses in the order of their usefulness, I should certainly place the Hungarian next to the Argentine—he, in my opinion, occupying the lowest place on the table. It was towards the latter end of my sojourn in South Africa that I saw most of the Hungarian animals, and at the remount establishments handsome-looking animals they were, but on the march they speedily lost condition until at the end of a more than usually trying march they looked half-starved and unfit to proceed further. They certainly possessed more mettle than the Argentines, but seemed always in soft condition, and lacking staying power. With a rest and good feeding they recovered and were again fit for a limited time and moderate work. Next on the list I should place the Waler or Australian horse, but there is a greater interval between him and the Hungarian than is between the Hungarian and Argentine, as on the whole the Australian horse did well. He is possessed of plenty of substance, speed, mettle, and staying power, but I noticed a curious point about him ; when, from disease, exhaustion, insufficient food, or overwork, he lost condition, it was always a matter of difficulty and time to get him again fit. I never heard a reason for this, nor can I think of one myself, but I am satisfied that this was more noticeable in this class of horse than in any other. At this point on the scale I should introduce the English horse, much as some would decry him, for I am convinced that, properly used, the British-bred horse, with the exception of the local horses, such as Cape horses, Basuto ponies, and Boer ponies, was and is the best remount for our troops. I am inclined to go further and say that when we have British-bred horses of the proper stamp thoroughly climatised, it will be found they have no equal. I am prepared to hear someone ask what is meant by the term "properly used," and although it is a most comprehensive term, and opens a large controversial field, I should like to point out one or two circumstances in which they are not properly treated, and where reform could take place with great benefit to the army in general and the horse in particular. In the first place they are palpably over-weighted. On looking up the Government regulations, we find it laid down, like the laws of the Medes and Persians, that the man has to carry 39 lbs. 8½ ozs., while the horse carries 79 lbs. 5½ ozs. but this does not include the blanket, for which we shall add 3 lbs. 2½ ozs., making altogether 122 lbs., or 8 stone 10 lbs. Add to that the weight of the trooper, and in most cases it means that the horse has to carry over 20 stone. In case some one should think that this is in times of peace and not on active service, I hasten to add that it seemed to me the weight was increased rather than reduced by every trooper having his haversack and pockets and often the feedbag filled with various articles

of a miscellaneous description. Again, towards the end of a march most of the troopers had secured for the evening's use pieces of firewood varying from 2 to 14 lbs. in weight, and this was gaily balanced on the saddle immediately in front of the rider. When we consider the class of animal required to carry a rider of 16 to 18 stone one day to hounds (with two or three days' rest afterwards), is it surprising that a large number of under-bred animals made to work day after day under such a load collapse, necessitating a lengthened period of treatment in a field veterinary hospital, or perhaps total destruction? I admit this is no new problem. It has been before our army authorities for long, but I feel certain the present campaign has pressed home the necessity for reform, and will result in some permanent improvement being made. In what manner or in what direction the improvement will be made I cannot venture to predict, but it often occurred to me that some light transport, or, as it is popularly called, galloping transport, might be used to follow the troops, in the same way as the Boers use their Cape carts. I remember, about August, a column, so equipped, leaving Kroonstad under the unfortunate Colonel Le Gallais, but with what success I am unable to state, and it will be interesting to hear the result of what was then waggishly called the Cape Cart Brigade. In the second place the horses were underfed. When I make this assertion I desire to cast no reflection on those responsible for the feeding of the animals, but speaking as a veterinary surgeon, and endeavouring to show why British-bred horses did not come up to expectation, I have no hesitation in affirming that the insufficiency of food accounts in no small degree for the large number of animals found unable for the work. Having considerable experience of the excellent way in which the Army Service Corps carried out its part in the campaign—often under extreme difficulties—I am led to the belief that it was impossible to carry more foodstuffs for our horses, but when one hears that our animals were on more than one occasion reduced to about 6 lbs. of oats per day, with no hay, no fodder, and no grass, is it surprising that I declare they were under-fed? In the third place, on disembarkation, the horses were unfit for immediate service, and instead of being sent up country and served out to the troops with all haste, they ought to have been allowed time to become acclimatised before being put to work. I am quite alive to the fact that the demand for remounts owing to the exigencies of the war was so great that this could not be done, and I simply put this forward as one of the reasons why the British-bred horse in some cases proved a failure. These, then, are a few of the circumstances in which I am of opinion the home horse was not properly treated. It is no mere theory on my part to declare that had the circumstances been otherwise, the home-bred animals would have proved their value, for I had a practical illustration in one of our companions. Captain Hamilton Campbell, the officer commanding the Ayrshire Company of Yeomanry, was one of the best horse-masters it has been my fortune to meet, and by making his men carry as little as possible, by buying extra food-stuffs wherever it was to be had, and by saving his horses on every possible occasion, he was able not only to preserve a large percentage of the horses he had taken out with him, but to keep them in good condition and fit for their work. By adopting the same tactics I rode a Scotch-bred mare daily for six months, and she was as fit at the end of that time as she was at the start. Advocating as I do the remounting of our troops on British-bred horses, the question now comes to be how is the supply to be kept up, and this is the point which is of particular interest to societies such as yours. There are two ways in which this can be done—First, by Government establishing large breeding stations, under thoroughly competent officials, as is done in other countries; and second, by Government subsidising farmers to breed the proper stamp of animal and purchasing it at three or four years of age. The first may have much to commend it, but to my mind the many objections one can raise to it seem to veil the advantages. The policy is too conservative, inasmuch as it does not encourage, throughout the country generally, one of the branches of agriculture, namely, horse-breeding; and I am inclined to think such a scheme would not be popular and probably much too expensive. The amount of money required to put such a scheme on a working basis is almost sufficient to condemn it at once, as large farms would have to be secured, mares and stallions bought and kept without any return in the shape of work, and a large sum of money disbursed in the salaries of the officials and staff. It must also be remembered that on such establishments barren mares are practically a dead loss, as they cannot be made use of to the same extent as a single such mare on a farm. We come now to the second method, and I venture to predict the one which will eventually be adopted, as the Special Committee on Army remounts submitted certain suggestions to the Inspector-General of Remounts, all tending in the direction of encouraging farmers to breed the required animals. As is well known, the Government is willing to purchase suitable animals from farmers whenever they are submitted to its representative, but the conditions and price offered are not such as would tempt farmers to breed specially for this market. Here then is the problem the Government will have to face—to elaborate a scheme whereby a large number of animals will be available at short notice, and one that will tempt farmers to breed suitable horses to keep up the supply. That this could be accomplished I have no doubt, and to attain this end the recommendations of the Special Committee cannot be improved upon. The suggestions of the Committee are as follows:—

1. We are of opinion that the Queen's (King's) premium horses in the United Kingdom should be considerably increased under the auspices of the Royal Commission on Horse-Breeding, if the Commission see their way to recommend the same.

2. The Government should agree to purchase in each year such animals as they may approve, at three years old in September.

3. On September 1st the selected animals would become the property of the Government, who would pay the owner £35, and he in return would agree to keep the animal for one year, more or less, at the rate of £10 per annum, the animal to be kept in proper condition. Should the animal die the Government would sustain the loss, but the owner in that case would not be paid for the keep. Should the animal not be kept in proper condition, the Government would reserve the right to reduce the amount of £10 paid for keep accordingly. Should a veterinary surgeon be called in the Government to bear the expeuse.

4. They should determine upon certain shows or other fixed places conveniently situated for the inspection and purchase of such horses, undocked, at the fixed price of £35.

5. Further, the Government should distribnte among the farmers ot the United Kingdom the cast mares from the cavalry and artillery free from hereditary disease and suitable for breeding pnrposes, subject to the following conditions—(*a*) The mares to remain the property of the Government, being lent for breeding purposes, the Government to pay the service fee to a premium stallion or selected sire, and the Government to have the refusal of the produce at three years old of all such as pass to be taken at the fixed minimum price of £35 on September 1st of each year. (*b*) That small prizes of £5, £4, £3, £2, and £1, according to the number of entries, should be given at the shows for the best remounts at 3 years old off, and that the Government should be able to claim all animals shown in these classes.

6. The Hunters' Improvement Society would be willing to assist the scheme in every possible way, and consider that it would further the object of encouraging the breeding of horses suitable for the army, and would bring the Remount department and breeders in direct communication with each other.

7. The Special Committee consider that any scheme of breeding horses or of establishing large remount depôts would be much more costly to the Government than the scheme above suggested, and, further, whereas Government breeding establishments would discourage farmers from breeding for the Army, the latter would encourage them to do so. The committee think that unless something of this sort is done there will be fewer and fewer available horses bred every year in this country, and in case of war breaking out there would be no remounts obtainable at hand when perhaps there might be difficulties in getting them from over the seas.

Such, then, are the recommendations, and they are worthy of serious consideration. To me the scheme seems most feasible, and I see no reason why farmers all over the country should not enter heartily into the proposal, provided, of course, that it is adopted by the Government. I hold most strongly that we can breed a sufficient number of excellent animals within our own shores, and it only requires a little encouragement from Government to bring remounting from home to a reality. The national importance of the subject I offer as an excuse for bringing it before you to-day, and if I might take the liberty of suggesting a practical outcome of this meeting, it would be that you open a class for animals suitable for army remounts at your next show. I have no doubt the authorities, if approached, would nominate an efficient judge of this class. Should you adopt this suggestion, I should feel more than recompensed for coming here to-day, and it would be but one more sign that we in the north are prepared to take the lead in any patriotic measure likely to be for the weal of the great empire to which we have the honour to belong.

After the paper, which was well received, discussion was invited, when several of those present gave their opinions briefly on some of the points touched upon by Mr. Young. While admitting that a dash of blood was essential to the production of the best class of horse for remount purposes, all were agreed that the Queen's premium horses which had been sent north year by year were not such as to recommend their use by farmers. At the close of the discussion Mr. Young received the cordial thanks of the meeting, on the proposition of the chairman.—*Aberdeen Free Press.*

A CASE OF SUBACUTE GLANDERS.

By JOHN FAWCETT, M.D., M.R.C.P. LOND.,
Assistant Physician to Guy's Hospital;
AND
WALTER C. C. PAKES, M.R.C.S. ENG., L.R.C.P. LOND., D.P.H. CANTAB.,
Bacteriologist to Guy's Hospital

A man, aged 45 years, a cab proprietor, was admitted into Guy's Hospital on August 4th, 1900, under the care of one of us. Three weeks before he was taken ill a horse in his stables, supposed to have been suffering from glanders, had been killed. The patient first fell ill on July 9th, and between this time and the date of admission he had a small abscess on the left forearm, which was opened, and elsewhere on the body several other swellings which did not suppurate. During this period the patient was so ill that he had to remain in bed, his temperature being raised throughout, and on several occasions reaching 104° F.

On admission the patient, a big stout man, was obviously very ill. He was very tremulous, but breathing comfortably. His temperature was 103·2°, his pulse was 100, and his respirations were from 30 to 40 per minute. On the left forearm was a shallow sinus which led into the above-mentioned abscess cavity and from which exuded a little thin discharge. Over the back of the right elbow there was some cellulitis and also over the back of the first and second right metacarpal bones. A similar swelling was present on the inner side of the left knee. These swellings somewhat resembled patches of erythema nodosum. No fluctuation was detected in them, nor any œdema of the surrounding tissue. A few mucous râles were heard over the bases of the lungs posteriorly. No physical signs were present on examination of any other of the organs. The urine did not contain albumen. There was no glandular enlargement and rhinorrhœa was not present. There was a small furuncle on the buttock, from which a cultivation was made. For the first three days after admission the condition of the patient did not materially alter, but on August 7th he became distinctly worse and had recurrent attacks of difficulty in breathing, saying "he was sure he would be choked." On the 8th a crop of small papules, which became pustular, appeared on the back. On the 9th there were a few fresh papules on the right thigh. The left knee joint was found to contain some fluid. During this day and the next the attacks of difficulty in breathing became more marked and the patient, becoming gradually worse, died on the 10th. Cultivations were made from the furuncles, but up to the time of death no positive result had been obtained.

Necropsy.—The lungs were œdematous, but there were no nodules or any pneumonic areas to be seen. All the other viscera appeared normal to the naked eye and no foci of inflammation or suppuration were present anywhere in, or among, the viscera. The left knee-joint contained a thin, yellowish, glairy fluid and over the right elbow the tissues were infiltrated with a similar oily fluid. Cultivations were made from the heart blood, the spleen, and from the fluid in the region of the elbow and from the left knee-joint.

Remarks.—The case was one of subacute glanders of a month's duration. During life, although the history and some of the signs and symptoms suggested the possibility of glanders, yet the clinical evidence, in the absence of bacteriological proof, was not sufficiently clear to allow of a positive diagnosis of glanders being arrived at. Although the patient was very ill the local manifestations of the disease were slight and might have been those of a sub-acute pyæmia of other origin. They were (1) subcutaneous swellings, (2) a few small furuncles, (3) a small abscess in the left forearm, and (4) the presence of fluid in the left kneejoint. There were no typical ulcers of the skin, no well-marked bullous or pustular eruptions, no rhinorrhœa, and no intra-muscular abscesses, the presence of any of which would have helped to distinguish the case with more certainty as one of glanders.

Bacteriology.—The small furuncle upon the buttock was examined microscopically and culturally. Bacilli were seen in the pus which resembled the bacillus mallei, but the cultures were full of staphylococci and no bacillus mallei were found upon them. The heart blood, the spleen, and the fluid from the knee-joint were examined and mixed cultures containing a glanders-like bacillus were obtained. These were plated and pure cultures of the bacillus were obtained. The bacillus had all the typical morphological appearances and gave the staining and cultural reactions of the bacillus mallei. A small quantity of a glycerine-agar culture was inoculated into the peritoneum of a male gunine-pig and after 48 hours its testicles were distinctly enlarged and inflamed. It was killed after four days and pus containing bacillus mallei was found inside the tunica vaginalis and small abscesses in the body of the testicle which on section were seen to contain characteristic bacilli. There can

be no doubt, therefore, that the case was one of glanders. It was suspected before death that the bacilli which had been found were really glanders bacilli, but owing to the contamination with other bacteria it was not proved. There would appear to be little doubt that had the abscess upon the forearm been examined bacteriologically the bacillus mallei would have been found. There seems also to be little doubt that had it not been for the bacteriological examination the case would not have been certainly diagnosed as one of glanders.—*The Lancet.*

ARMY VETERINARY DEPARTMENT.

From *The London Gazette*:

WAR OFFICE, PALL MALL, April 26.

Vet.-Major J. Burton is placed on temporary half-pay on account of ill-health.

C.V.S. M. H. Hayes arrived at Southampton on April 29th in the "Tagus" from South Africa.

Vet.-Capt. E. A. Kendall (Victorian Bushmen), C.V.S. A. H. Sugden, K. M. Molyneux, and F. H. Pickett left Cape Town on April 23rd in the ss. Lake Erie on passage home.

C.V.S. John McGregor reported dangerously ill on April 20th at Pietermaritzburg.

CORRESPONDENCE.

REQUISITION FOR SPECIAL GENERAL MEETING.

Sir,

Will you allow us space in *The Veterinary Record* to make the profession acquainted with the latest proceedings in reference to the "Cambridge case."

On Thursday evening, 25th April, a requisition to the President of the R.C.V.S. was posted to the Secretary.

This requisition, requesting the President to call a special general meeting of the profession "to consider the action of the Council *re* the "Cambridge case," had been *personally* signed by 64 members of the profession, while 437 others, by signing a printed postcard, had authorised the appending of their names. The list appended to the requisition, therefore, numbered 501 signatures—64 personal ones, while 437 members had signed "by proxy."

Late on Saturday afternoon (the 27th) the requisition was returned to me, with the following letter from the Secretary:—

Royal College of Veterinary Surgeons,
10, Red Lion Square, W.C.,
April 27th, 1901.

Dear Sir,

The President of this College directs me to acknowledge the receipt of the requisition, signed by you and other members of the profession, at the same time to draw your attention to the fact that the requisition does not contain the requisite number of signatures—which should be original and not by procuration—to authorise him in calling a special meeting.—Faithfully yours,

ARTHUR W. HILL, *Sec.*

W. Roger Clarke, Esq., M.R.C.V.S.,
18, Gayton Road, Hampstead, N.W.

P.S.—Requisition returned herewith."

On Monday, however, we again forwarded the requisition to the Secretary, bearing eleven additional *original* signatures. None of these eleven gentlemen had signed previously "by procuration" so that the list now contains 512 names, and would have contained more had the names which have been sent since the requisition was first sent in been appended to it. This was not done, as their letter from the College showed it to be useless.

Perhaps you may also find space for a few words of explanation. The President is *compelled*, not authorised, to summon a special general meeting by a requisition signed by either ten members of Council or seventy-five members of the profession.

At the time of writing (8 p.m.) nothing further has been heard from the Secretary.—Yours faithfully,

W. ROGER CLARKE, M.R.C.V.S.
HENRY GRAY, M.R.C.V.S.

18, Gayton Road, Hampstead, N.W.

R.C.V.S. EXAMINERS.

Sir,

Like Mr. W. J. Moran, who has sent a letter of remonstrance that Irishmen have not been elected to replace Messrs. Pallin and Freeman on the Board of Examiners, I write to say how hurt I feel that gallant little Wales has not been better treated, and also that among Englishmen not a single gentleman from Yorkshire, although it is the largest county in England, has been appointed examiner; and when we consider the Fellowship examiners my blood fairly boils for, Ye gods and little fishes! they are every one Scotchmen. I ask, sir, more in sorrow than in anger, On what principle do the Council choose their examiners? We read some time ago of a body appointing an unqualified man their veterinary inspector on the ground that if they did not he would probably become chargeable on the rates. Well, sir, that is intelligible: and I protest against any slavish imitation of our War Office who seem to have selected Generals Roberts, White, and French, for example, because they were the best men for the posts. It is necessary to add I do not come from Yorkshire.—Yours truly,

I. RATE.

Sir,

In *The Record* of April 27th, complaining because on the much to be regretted resignation of Messrs. Freeman and Pallin of their positions as examiners for the diploma of the R.C.V.S. the Council have not elected one or two Irish candidates. As I nominated Vet.-Lieut.-Colonel J. A. Nunn, who has been elected in the place of Mr. Pallin, will you permit me to point out that he is the son of the late E. W. Nunn, Esq., J.P., D.L., of Hill Castle and St. Margarales, Co. Wexford, Ireland, that he was born in Ireland and lived there up till the time he entered the Army. Under the circumstances I think that Colonel Nunn may reasonably be considered an Irishman.—I am, yours faithfully,

W. J. MULVEY.

BACILLUS ICTEROIDES.

Sir,

Referring to your extract *re* Bacillus Icteroides in the issue of 27th April, experiments are now being carried out in America with the view of finding out if yellow fever is disseminated by means of mosquitos, and though the experiments have not been completed, there is very strong evidence that Bacillus Icteroides is not the cause but that it is spread by one of the genus *Culex* as is malaria by *Anopheles*.—Yours truly,

THE DOCTOR SAHIB.

COMMUNICATIONS, BOOKS, AND PAPERS RECEIVED:—Messrs. J. McLauchlan Young, A. McCarmick. Lt. Col. Nunn. *Journal of Comparative Medicine and Veterinary Archives* Philadelphia (Index), *The Farriers' Journal*, *The Agricultural Journal* (Cape), *The Aberdeen Free Press.*